

Patent Abstracts of Japan

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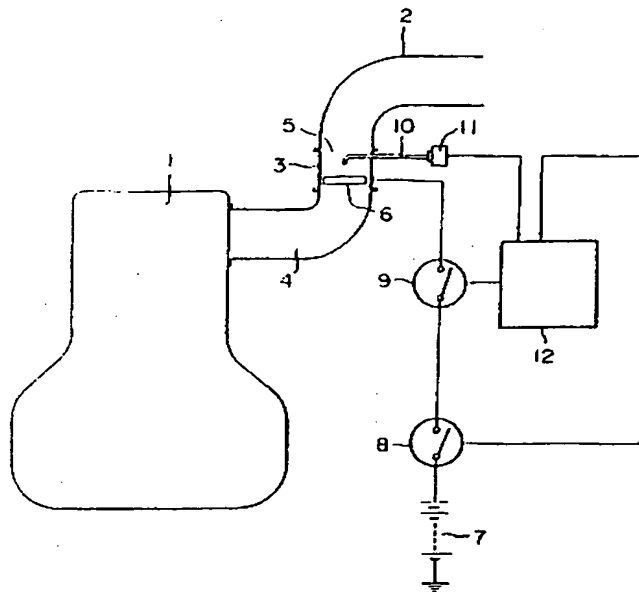
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APPLICANT : TOYOTA MOTOR CORP;

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TITLE : INTAKE-AIR HEATING APPARATUS
FOR INTERNAL-COMBUSTION
ENGINE



ABSTRACT : PURPOSE: To prevent waste of electric power and fusing of an intake-air heating, electric heater, by avoiding overheating of said heater by measuring the temperature at the surface of said sensor indirectly by means of a photo-sensor, and controlling current supply to said heater according to the detected surface temperature of the sensor.

CONSTITUTION: In an internal-combustion engine, for instance, a Diesel engine 1, air is drawn through an intake passage 5 consisting of an intake tube 2, an intake passage member 3 and an intake manifold 4. An intake-air heating, electric heater 6 is provided in the intake passage member 3, and an optical fiber 10 is attached to the member 3 in the manner that one end of the optical fiber 10 is opposed to the surface of the heater 6 while the other end is connected to a photo-sensor 11. Further, information relating to the degree of illumination of the heater 6 and information relating to opening and closing of a key switch 8 are applied to a control unit 12. With such an arrangement, current supply to the heater 6 is stopped by opening a relay switch 9 even within the period for heating intake air in case that the temperature of the heater 6 is raised to a predetermined value.

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